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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/829,321	04/22/2004	Hyun-Sook Kim	1594.1351	5667

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EXAMINER

HECKERT, JASON MARK

ART UNIT	PAPER NUMBER
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1746

MAIL DATE	DELIVERY MODE
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09/12/2007

PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary

Application No.

10/829,321

Applicant(s)

KIM ET AL.

Examiner

Jason Heckert

Art Unit

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 06 July 2007.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-4, 6-11, 18, 19 and 21-24 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-4, 6-11, 18, 19 and 21-24 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|---|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Response to Arguments

1. Due to the applicant's amendments to the claims, the previous rejections under 35 U.S.C. 102(b) and 35 U.S.C. 103(a) have been rendered moot.
2. Specifically, applicant has amended the claims to include limitations drawn to the inclined drum and perforated front wall. As shown by Sumner, this orientation as well as structure is already known in the art, thereby rendering the modification obvious.
3. Applicant also argues that Ryu, Imamura, and Kwon fail to disclose a water inlet that directly inputs water into the drum and tub. Examiner disagrees. In these prior arts, water is injected directly into the washtub or fixed drum. Water that enters the tub, also enters the rotary drum. Thus, the prior art reads on the current claim language. If the applicant's invention is substantially different from this arrangement, examiner encourages the applicant to include structural limitations in the claim language that appropriately differentiates the applicant's invention from the prior art.

Claim Objections

4. Claims 6 and 21 objected to because of the following informalities: Claim 6 depends on cancelled claim 5, claim 21 depends on cancelled claim 20. Appropriate correction is required. For the sake of examination, examiner will assume claim 6 depends on claim 1, and claim 21 depends on claim 18.

Claim Rejections - 35 USC § 103

5. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

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(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

6. Claims 1-4, 6, 18-19, 21 rejected under 35 U.S.C. 103(a) as being unpatentable over Ryu et al. (Ryu) in view of Sumner et al (Sumner). Ryu discloses a washing with a fixed drum 20, equivalent to a water tub, with a perforated rotary drum 30 disposed inside. A drive unit 40 actuates the rotary drum. The machine is provided with a water circulation device 60 that feeds water into the drum during washing and rinsing operations. Ryu discloses a water supply hose 14 for supply water into the fixed drum 20. Water is injected directly into the washtub or fixed drum. Water that enters the tub also enters the rotary drum. A control unit is disclosed, but not shown (paragraph 32). The control unit controls the drive unit (paragraph 32) as well as a three-way valve 53 of the circulation device. The circulation device feeds the wash water that has dripped from drum 30 into drum 20 back to the drum 30 and therefore reads on "using only wash water supplied into the rotary drum". Although Ryu discloses a drum coupled to a drive shaft, a front opening, and perforations, Ryu does not disclose a tilted drum with perforations on the front wall. Sumner discloses a tilted drum for a washing machine that has a perforated front wall (figures 1 and 2). It would have been obvious at the time of the invention, to use any known drum construction and orientation, such as a tilted drum with a perforated front wall as taught by Sumner, in place of Ryu's drum, as they are known constructions that allow fluid to drain during washing and rinsing operations.
7. Claims 1-4, 6-10, 18-19, 21 rejected under 35 U.S.C. 103(a) as being unpatentable over Imamura et al. (Imamura) in view of Sumner et al (Sumner).

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Imamura discloses a washing machine with a tub 2, a perforated spin basket (or drum) 3, drive motor 5, water supply valve 9, circulation pump 111 connected to circulation pipe 12 and nozzle 13, an electric heater 11, temperature sensor 24, control means 31, and key input means 35. Water is injected directly into the washtub or fixed drum.

Water that enters the tub also enters the rotary drum. The control means is a microcomputer that controls the motor, heater, water supply, and receives input from the key input and temperature sensor. The control circuitry is able to determine temperatures, and determine whether or not a certain temperature is met (figure 12).

Although Imamura discloses a drum coupled to a drive shaft, a front opening, and perforations, Imamura does not disclose a tilted drum with perforations on the front wall.

Sumner discloses a tilted drum for a washing machine that has a perforated front wall (figures 1 and 2). It would have been obvious at the time of the invention, to use any known drum construction and orientation, such as a tilted drum with a perforated front wall as taught by Sumner, in place of Imamura's drum, as they are known constructions that allow fluid to drain during washing and rinsing operations.

8. Claim 1-4, 6, 18-19, 21 rejected under 35 U.S.C. 103(a) as obvious over Kwon in view of Sumner. Kwon discloses a washing machine with a washing tub 60, a perforated inner tub 65, and a drive motor 75. Kwon expresses that water is fed into the machine during step s1. Water is injected directly into the washtub or fixed drum.

Water that enters the tub also enters the rotary drum. Kwon also discloses a circulation unit comprising a hose 70, channel 71, and a nozzle 74 for recirculating water disposed in the tub back to the inner drum (col. 3 line 66 – col. 4 line 5). The perforated drum 65

is inclined. Kwon states that the three-way valve 72 and pump 73 are controlled (col. 5 line 60), but does not distinctly disclose a controller. The examiner maintains that controllers are known in the washing machine art as shown above by Ryu and Imamura. It would have been obvious at the time of the invention, to use a controller to operate various aspects of the machine, such as the circulation and drive units. Kwon does not disclose that the drum is perforated in the front wall. Sumner discloses a drum for a washing machine that has a perforated front wall (figure 2). It would have been obvious at the time of the invention, to use any known drum construction, such as that with a perforated front wall as taught by Sumner, in place of Kwon's drum, as they are functional equivalents that allow fluid to drain during washing and rinsing operations.

1. Claims 11, 22-24 rejected under 35 U.S.C. 103(a) as being unpatentable over Imamura in view Sumner and further in view of Noguchi et al. (Noguchi). Imamura discloses a control circuit means 31 and key input 35 operated by the user. Imamura also teaches that the control means can manipulate the temperature via the heater 11. Imamura does not distinctly disclose a storage or memory unit, however various storage means such as RAM and ROM are common in the art and are generally implemented and inherent in many control circuits and their inclusion cannot be considered novel. Furthermore, Noguchi teaches the use of RAM and ROM in the control circuitry of a washing machine to control various steps of washing. Other publications that reference storing temperatures and using stored data for washing machine control include but are not limited to U.S. Patent 6,499,321 to Rhodes et al., U.S. Patent 6,269,506 to Hollatz et al., U.S. Patent 6,003,182 to Song, and U.S. Patent 5,388,299 to Lee. It would have

been obvious at the time of the invention to modify Imamura in view of Sumner, as stated above, and further include some type of storage memory in the control circuitry, as taught by Noguchi, to control various wash steps that are either preprogrammed or entered by the user. As stated previously, Imamura discloses an electric heater.

Conclusion

2. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than **SIX MONTHS** from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Jason Heckert whose telephone number is (571) 272-2702. The examiner can normally be reached on Mon. to Friday, 8:00 - 5:00.

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If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Michael Barr can be reached on (571)272-1414. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

JMH



MICHAEL BARR
SUPERVISORY PATENT EXAMINER